

### **User Guide**

#### NJ205 IntelliJack

3CNJ205 4-port 10/100 Mbps Managed Ethernet Switch



http://www.3com.com/ http://www.3com.com/productreg

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### Limited Warranty and Regulatory Compliance Information

About the NJ205 IntelliJack

The 3Com NJ205 is part of the IntelliJack family of products that provides connectivity at the edge of the network infrastructure.

The NJ205 IntelliJack is a 4-port, un-managed Fast Ethernet switch that fits into most standard data port openings.

The NJ205 IntelliJack quadruples port connections where a single port (and cable) already exists in the wall. Expanding port connections with the 3Com IntelliJack is a less expensive and less disruptive alternative to running additional cabling. Also, the 3Com IntelliJack is installed in the wall, making it more secure and out of the way than deploying a remote desktop switch.

The NJ205 IntelliJack allows up to four networking devices, such as computers, printers, Voice over IP (VoIP) telephones, and scanners, to be connected to the network via its own Ethernet port. A pass-through port is provided that allows an additional device to be connected to a separate network segment through the same IntelliJack.

All ports feature 10/100 Mbps auto-negotiation, which configures the NJ205 IntelliJack for 10 Mbps or 100 Mbps connections automatically.

The NJ205 needs no software to operate and no configuration. However, to modify the default configuration and utilize the advanced feature we have provided a configuration manager software suite on compact disk.

You can manage the NJ205 IntelliJack using the included Central Configuration Manager. You can also use a supported SNMP management console as you would with any managed device on your network, but greater management and control is available through the Configuration Manager software. Management features include:

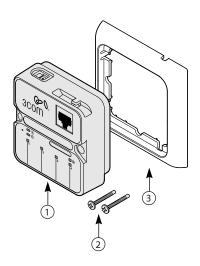
- Device discovery
  - Port status (state, duplex, speed)
  - Statistics
  - Port control (port state, flow control, AutoMDI(X), multicast limit)
  - QoS/Priority
  - Port-based VLAN
  - VLAN tag add/remove
  - Firmware upgrade

Before you begin installation, register your product at: www.3com.com/support.

#### Package Contents

The NJ205 IntelliJack is available in single- and 20-packs. Before installation, familiarize yourself with the following items, which are included with the NJ205:

- 1 NJ205 IntelliJack.
- 2 Four pairs of M3.5mm screws (two per IntelliJack) for mounting the IntelliJack to the wall, floor box or office cubicle.
- 3 Mounting plate (face plate).



Additionally, the following items are shipped with the single pack:

- Compact disc containing
  - User Guide and additional informational documents.
  - Configuration Manager software.

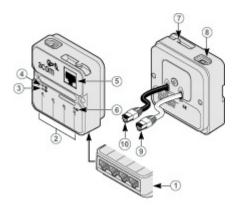
All screws are phillips pan head type screws. The type of threads vary to match the different mounting locations compatible with the IntelliJack.

- Thread forming screws for mounting into plastic:
  - M3 x 30mm (2x)
  - M3 x 40mm (2x)
- Machine screws for mounting into metal:
  - M3.5 x 50mm (2x)
  - M3.5 x 740mm (2x)

For more information on optional components, see Appendix C, "Optional Components".

#### NJ205 Description

The following diagram shows the front, rear and bottom views of the IntelliJack:



1	RJ-45 switched PAN (personal area network) ports	Four 10/100 Mbps auto-negotiation ports, which the NJ205 configures for 10 Mbps or 100 Mbps connections automatically (green LEDs).
2	Port LEDs and corresponding port numbers	Indicate network status of each of the four RJ-45 PAN ports.
3	RJ-45 LED	Indicates the status of the LAN connection (white cable, green LED). For more information, see "Checking the LEDs" on page 11.

4	Power LED	Indicates NJ205 p ower status (green). For more information, see "Checking the LEDs" on page 11.
5	Pass-through port	Provides an independent connection to your LAN that passes through the NJ205 IntelliJack. The data or voice traffic is separate from and unaffected by the NJ205 switch.
6	Power- forwar ding LED	Lights when the IntelliJack is connected to and forwar ding power to an IEEE802.3af compliant device. For more information, see "Chec king the LEDs" on page 11.
7	Local power supply cable strain relief	Local power supply cable strain relief.
8	Power Socket	The NJ205 can be powered from a local power supply (available for purchase from 3Com). This is required if your network does not support Power over Ethernet (PoE).
9	Main Unit LAN cable (white)	Connects the NJ2 05 switched RJ-45 ports to the Ethernet LAN. Make sure the port on the network switch to which the NJ205 is connected is configured as a standard MDI-X port.
10	Pass-through LAN cable (Black)	Connects your pass-through port directly to the Ethernet LAN. No LED

## 2 Installing the IntelliJack

Installing the NJ205 IntelliJack consists of the following steps:

- **1** Set up the power supply.
- 2 Mount the NJ205 to the wall outlet box.
- 3 Connect devices to the NJ205.
- 4 Check the NJ205 LEDs.

#### Setting up the Power Supply

Power to the IntelliJack is provided through one of the following methods:

- Over the network via an integrated switch that supports Power Over Ethernet.
- Over the network via an Ethernet multi-port endspan power supply.
- Over the network via a single-port Ethernet power supply.
- Locally via a 3Com local power supply.

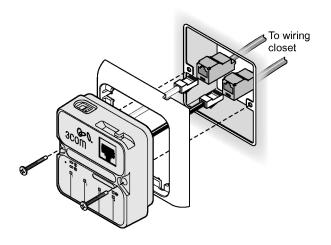


**NOTE:** Power Over Ethernet, also known as in-line power, is a method to provide power to equipment over an Ethernet cable, allowing a device to receive both data and power from the same network cable. The NJ205 is ideally powered by a switch that is IEEE 802.3af-compliant. The NJ205 can also be powered by some switches that are not 802.3af-compliant. Consult the 3Com web site for more information.

Before you begin installation, determine which type of power supply the IntelliJack will use. For more information on power options and configuration, see Appendix D, "Power Options".

#### Mounting the IntelliJack

The IntelliJack mounts in any standard British Standard Institute (BSI): BS 4664:1970 (1986) single cubicle opening or wall outlet.



Before connecting the IntelliJack to the network, verify that the existing network cabling meets the ANSI/TIA/EIA-568 standard and that the port in the wiring closet is connected to an active Ethernet MDI-X port.

- 1 Thread both IntelliJack LAN cables through the opening in the mounting plate.
- 2 Connect the wiring as illustrated on page 8. The IntelliJack has two Ethernet cables each terminated with a male RJ-45 connector.

The white cable connects the LAN to the four personal area network (PAN) ports located on the bottom of the IntelliJack.

The black cable connects the LAN to the single passthrough port located on the front of the IntelliJack.

- 3 Choose one pair of the provided screws that best fits your outlet box.
- 4 Tighten the screws while holding the IntelliJack in place.



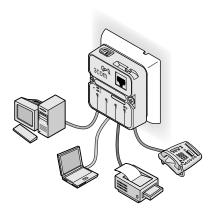
NOTE: The IntelliJack is designed to be mounted using the provided mounting plate or many aftermarket faceplates. However, some after-market faceplates stand out from the wall and do not provide a secure mounting surface for the IntelliJack. In such cases it is recommended to place the 3Com spacer between the IntelliJack and the after-market face plate. For more information on the different mounting plates and spacers, see Appendix B.

#### Connecting Devices to the IntelliJack

Once the power source and the data source have been verified in good working order and the IntelliJack has been installed and mounted, connect your networking devices (such as computers, printers, IP phones, cameras, etc.) to the IntelliJack.

The IntelliJack has two ways to connect devices:

- 1 RJ-45 Personal Area Network (PAN) Ports any of the four switched ports on the bottom of the IntelliJack. All ports feature 10/100 Mbps auto-negotiation, which configures the NJ205 IntelliJack for 10 Mbps or 100 Mbps connections automatically.
- 2 Pass-through port—a single pass-through port is provided that allows an additional device to be connected to a separate network segment through the same IntelliJack. The data or voice traffic that travels through the pass-through port, passes through the IntelliJack without being switched.



#### Checking the LEDs

You can verify the IntelliJack installation by checking the LEDs.

LED	Description
(LAN)	On—the IntelliJack is connected to the network and a link has been established.  Off—there is no connection to the network.
(Power)	On—the IntelliJack is receiving power (local or via the network). When you first connect power to the IntelliJack, there is a delay of approximately 5 seconds. The power LED light blinks once or twice before remaining solid on.  Off—the IntelliJack is not receiving power.
<b>(</b>	On—the IntelliJack is connected to and is forwarding power to an IEEE 802.3af-compliant device.
(Power- forwarding)	Off—the IntelliJack is not connected to or is not forwarding power to an IEEE 802.3af-compliant device.



CAUTION: Make sure the wiring closet port connected to the IntelliJack white cable is configured as a standard MDI-X port.

## Installing the Configuration Managers

Once you have installed the NJ205 hardware, you need to configure it for use on your particular network. To configure the NJ205, install the Local and Central Configuration Managers.



**NOTE**: You will use the Local Configuration Manager for initial configuration of the NJ205 on your network. It is usually easiest if you load this software on a laptop and use it to configure NJ205 devices as you install them.

The NJ205 Central Configuration Manager is used for advanced configuration and management of one or more NJ205 devices on your network. This software should be installed on the machine you plan to use to manage your NJ205 devices from a remote location—perhaps the same console you use for SNMP management.

#### System Requirements

The machine you install the software on should meet the following requirements:

- Pentium processor
- Minimum of 15MB disk space
- Windows 2000 or Windows NT 4.0 with Service Pack 6 installed (Windows 95 and Windows 98 are not recommended operating systems for use with management platforms. In most cases, the Configuration Manager software will work with Windows 95, 98, or XP. However, please check 3Com's web site for additional information regarding XP support)

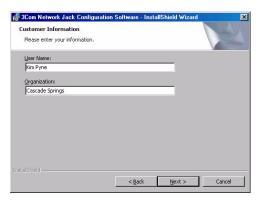
#### Installing the Local and Central Configuration Managers

To install the Configuration Manager software:

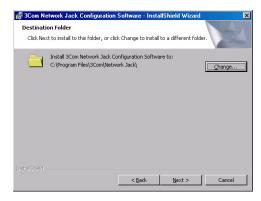
- Insert the Configuration Manager software CD into your Windows 2000 or Windows NT computer.
- 2 If your computer is configured to Auto-Play CDs, the installation will start automatically. If not, double-click the setup.exe icon on the CD, and you will see this window:



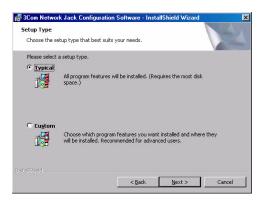
- 3 Click Next to continue.
- 4 Carefully read the license agreement. If you agree, click "Yes, I accept" and Next to continue.
- **5** Enter your user and organization names and click Next.



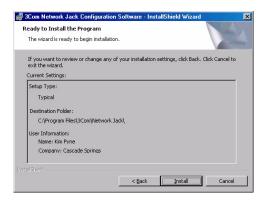
6 The program files will be installed in the directory C:\Program Files\3Com\IntelliJack. If you want to change the location of the installation, click Change. Otherwise click Next to accept the default location and continue.



7 Select a typical or custom setup and click Next. The Typical installation will install both the Local Configuration Manager and the Central Configuration Manager on your system. The Custom installation option lets you install just one of the programs if you wish.



8 Review the settings you selected and click the Install button.



9 When the installation has completed, click the Finish button to close the installation utility.

The installation utility creates two shortcut icons on the Desktop--one for the Local Configuration Manager and one for the Central Configuration Manager.

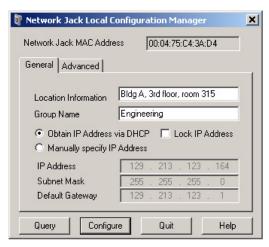
You can also launch the programs from a program group you can access from the Start menu. The program group folder is labeled 3Com IntelliJack and can be found under the Programs menu.

# 4 Using the Local Configuration Manager

#### Initializing the NJ205 IntelliJack

Once you have installed the NJ205 hardware on your network and the Local Configuration Manager software on your computer, you need to perform an initial configuration of the IntelliJack.

- 1 Connect your computer to the NJ205 that you are installing. Attach an Ethernet cable from a computer running the Local Configuration Manager software to any one of the four personal area network (PAN) ports on the front of the NJ205.
- 2 Click on the desktop shortcut icon labeled NJ205 Local Config Mgr to start the program. When it launches, you will see a window like this:



- 3 The MAC address and default IP address of the currently connected NJ205 will appear in the first field. If you connect to another NJ205, you must click the Query button to refresh the window.
  - If you are not connected to any IntelliJack, the field will display the message Not Connected. If the Not Connected message appears, check your connection to the IntelliJack and click the Query button.
- 4 Make sure the General tab is selected.

- 5 Enter Location Information for the particular NJ205 you are configuring. This field can help you and other network managers identify this IntelliJack in the future. You may enter any information you like (up to 256 characters), but we recommend that you enter a logical, easy to follow description, such as "Building A, 3rd floor, room 315, West wall."
- 6 Enter a Group Name for this IntelliJack. This can be any name you wish. With the Central Configuration Manager, you can perform management tasks on all IntelliJacks with the same group designation.
- 7 Select the method the NJ205 should use to obtain an IP address. The NJ205 can either get an IP address from an existing DHCP server on your network or you can directly specify the address. If you elect to specify your own address, you should enter the IP Address, Subnet Mask, and Default Gateway information in the appropriate fields.



**NOTE**: By default, the NJ205 is configured to automatically obtain an IP address from a DHCP server. If no DHCP server exists, or if the NJ205 cannot obtain an IP address, it will default to the IP address 192.168.1.252.

**8** If you wish, check the box next to Lock IP Address. Selecting this option will ensure that the IntelliJack will always use a particular address.



**WARNING**: If you lock an IP address and reserve it for this IntelliJack, make sure you configure your DHCP server so it won't distribute that address to other devices.

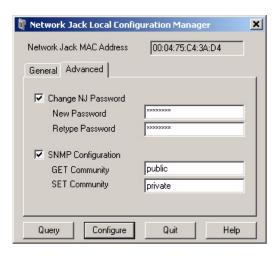
9 Click the Configure button and the Local Configuration Manager will ask you to enter the password for the device. If you haven't changed the password, you should enter the default password, which is "password" (without the quotes). Your changes are sent to the NJ205 and will become effective immediately.

Those are the only steps *required* to initialize your NJ205 IntelliJack.

#### **Setting Advanced Options**

If you want to change the default password of the NJ205 or manage it from an SNMP console, you can configure these settings from either the Local Configuration Manager or the Central Configuration Manager (covered in the next chapter). In the Local Configuration Manager, both settings are found under the Advanced tab.

 Select the Advanced tab on the NJ205 Local Configuration Manager window.



- 2 To change the IntelliJack's configuration password, click on the box next to Change NJ Password. Then enter the new password in both password fields. (You must enter the password twice to ensure you entered it correctly.) The password you select can be any combination of letters and numbers between 8 and 32 characters.
- 3 To configure the NJ205 for management with an SNMP console, select the SNMP Configuration box. Enter the GET Community String and SET Community String in the appropriate fields. Each field lets you enter any combination of letters and numbers up to 32 characters.
- 4 Click the Configure button and the Local Configuration Manager will ask you to enter the password for the device. If you haven't changed the password, you should enter the default password, which is "password" (without the quotes). Your changes are sent to the NJ205 and will become effective immediately.



NOTE: You should change the password to ensure that no one else can re-configure your system. Make sure you remember the new password you set. If you forget the new password, you will not be able to perform any other configuration tasks unless you send the device back to 3Com.

## 5 Using the Central Configuration Manager

You should use the Local Configuration Manager to initialize each of the NJ205 IntelliJacks installed on your network. Once you have completed that step, you can manage all of them with the Central Configuration Manager.

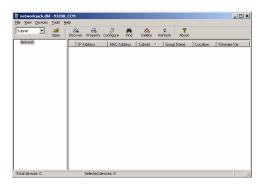
Install this program on any computer on your network you want to use as a central management console. (See the previous chapter, "Installing the Configuration Managers," for help). You can use the same machine that has your SNMP-based management platform. The Central Configuration Manager will be able to configure and manage all of the IntelliJacks that reside on your network.

#### **Discovering NJ205 Devices on Your Network**

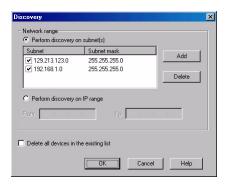
In order to manage the NJ205 IntelliJacks on your network, the Central Configuration Manager needs to include them in its database. The easiest way to add new NJ205 IntelliJacks to the database is to use the device discovery tool included in the Central Configuration Manager. The first time you run the Central Configuration Manager, it will automatically take you to the Discovery window as shown under step one below.

To discover devices on your network, run the following steps:

1 Open the Central Configuration Manager by doubleclicking on the NJ205 Central Config Mgr desktop icon. When it launches, you will see a window similar to this one:



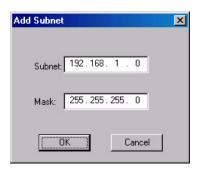
2 Select Discovery from the Devices menu. The following window appears:





**NOTE**: The default subnets are the ones your machine is connected to.

- 3 You can discover new devices based on a specific subnet or on a specific range of IP addresses.
  - a To discover devices by subnet, select that option on the screen. Click the Add button to add a new subnet to the discovery list. The following box appears:



- b Fill in the Subnet and Mask fields and click OK. or
- c To discover devices within a certain IP range, select that option on the screen and complete the From and To fields.
- 4 If the box next to "Delete all devices in the existing list" is checked, the discovery process will replace all of the devices in your current database with the new devices it discovers. If unchecked, the discovery process will add newly discovered devices to the current database.
- **5** Click OK to start the discovery process.

The device discovery tool will return the following information from the NJ205 IntelliJacks on your network:

- IP address
- MAC address
- Subnet address
- Group Name
- Location information
- Firmware version

You can sort this information in ascending or descending order.



NOTE: Discovered devices are automatically added to the default database. This default database opens automatically when you launch the Central Configuration Manager. If you like, you can keep several database files, each with its own list of devices. For example, you may want a separate database for each subnet you manage. To save a database file or open another database file, select the Open Database or Save Database As options from the File menu.

You can view discovered devices many ways. On the left side of the window, under the toolbar, you can see a drop down box with options for either Subnet, Firmware Version, or Group Name. The option you select in this box determines how the views are displayed in the left pane of the window.

#### Using the Central Configuration Manager

When Subnet is selected (the default option), you will see a list of IP subnets to choose from. Selecting Network will show all of the discovered devices in the database. If you select a particular subnet, only the devices in that subnet will be displayed.

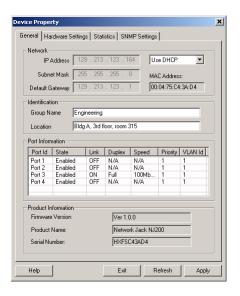
When Firmware Ver is selected, you will see a list of the different firmware versions loaded on the devices. This view is particularly useful if you want to select only the devices with an old firmware version so you can perform an upgrade.

When you select Group Name from the drop down list, the Central Configuration Manager will present a list of the different group names you have specified.

### Viewing Device Properties

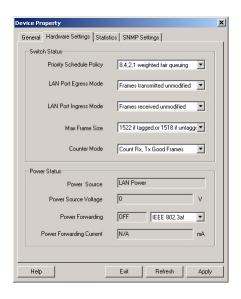
Once the database is populated with NJ205 IntelliJacks on your network, you can begin to manage those devices. The main window of the Central Configuration Manager shows a list of devices in the current database with the information retrieved during the discovery process. You can view and configure the properties for a **single** NJ205 using this window. To configure multiple devices at one time, see " " Changing Device Configuration" on page 39. To get more detailed information about a device, you should check its properties:

- 1 Select a IntelliJack from the devices list.
- 2 Select Property from the Devices menu or from the toolbar. You can also open this window by right-clicking your mouse and selecting Property.



- With the General tab selected, you can view and edit information about the device such as the IP address, subnet mask, default gateway, and whether it uses a static IP address or gets its address from a DHCP server. You can also view and edit the IntelliJack's Group Name and Location information.
- 4 Click Apply to save any changes you make to the fields in this window.

- 5 In the middle of this window you'll see information about each of the four PAN ports on the front of the IntelliJack. You can check to see if the port is Enabled or Disabled, if there is a network link, whether or not it's running at half or full duplex, what speed it's set for, its priority, and whether or not it's part of a virtual network (VLAN).
- 6 Under the Product Info box, you can see the current firmware version of the IntelliJack, the Product Name, and the Serial Number.
- 7 Click on the Hardware Settings tab to view status information about the switch.



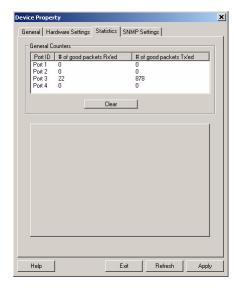
Several fields in this window can be edited, a few cannot. You can change the values of the fields with drop-down lists: Priority Schedule Policy, LAN Port Egress Mode, LAN Port Ingress Mode, Max Frame Size, Counter Mode, and Power Forwarding.

8 Simply select the value you wish to change from the dropdown list of options.



**NOTE**: You can click Apply at any time to save the changes you have made. But be sure to click Apply after you have finished making all your changes.

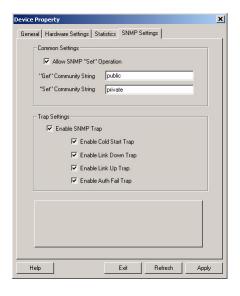
9 Click on the Statistics tab.



From this view you can see statistics about the number of good or bad packets each port has received and transmitted, based on how you have configured the Counter Mode setting.

You can reset all counters to zero by clicking Clear.

10 Click on the SNMP Settings tab to see the following window:



You can view and edit the SNMP Common Settings and Trap Settings for this particular NJ205.

- 11 Click Apply to save any changes you make and a configuration summary dialog box will appear. Verify the information and click OK.
- 12 Click Exit to close the Device Property window.

### **Changing Device Configuration**

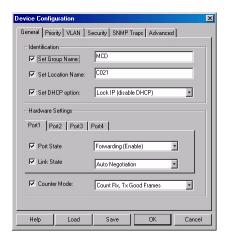
Many of the properties that you can view from the Device Property windows can be changed from the Device Configuration window. Here's how to use this feature:

1 Select one or more IntelliJacks from the devices list.



**NOTE**: It is possible to configure multiple IntelliJacks at the same time.

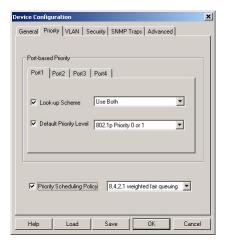
2 Select Configuration from the Devices menu or the toolbar or right click on a device and select Configuration from the pop-up menu.



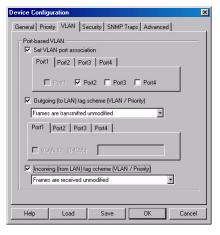
This window has six tabs across the top--General, Priority, VLAN, Security, SNMP Traps, and Advanced. Check the box next to any setting you want to change from within these six areas.

- 3 Select the General tab.
- 4 To change or set the Group Name, check the box next to that field. You can set a Group Name to anything you want, up to 256 characters.
- 5 Change or set the Location Name by checking the box next to that field and entering up to 256 characters.
- 6 Configure the DHCP setting to the desired state.

- 7 Change the Port and Link states of any of the IntelliJack's ports by checking the box next to the characteristic you want to modify and selecting a value from the drop list.
- 8 By default, the Central Configuration Manager will display a count of good transmissions in the Property window. If you would rather track errors and collisions, select that option in the Counter Mode setting.
- 9 Click the Priority tab along the top of the Device Configuration window to view these settings:



- 10 From this screen you can change the Look Up Scheme and Default Priority Level of each port on the NJ205 and the Priority Scheduling Policy of the IntelliJack itself. Check the box next to the setting you want to change and select an option from the drop-down list.
- 11 Click the VLAN tab to configure your IntelliJack for use in a virtual LAN.



12 From this window you can associate any of the four ports with any other ports on this IntelliJack to form a VLAN group. You can specify the tag schemes for the VLAN you create.



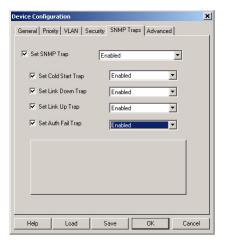
**NOTE**: VLAN stands for Virtual Local Area Network. VLANS are used to create a subgroup of systems within a LAN in order to isolate traffic between network devices. The NJ205 supports VLAN tagging, but does not route inbound traffic on a per-port basis.

If you change your VLAN settings, they should be consistent with your network's VLAN settings.

13 Select the Security tab to set the security options of the NJ205 IntelliJack.

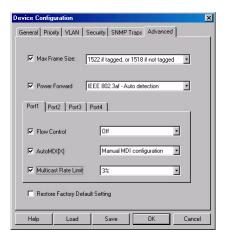


- 14 You can change the device password (the default password is "password"), and adjust the SNMP Set permissions and Community Strings.
- 15 Click the SNMP Traps tab to change the trap settings of the NJ205.



16 From this window you can enable or disable the device's Cold Start, Link Down, Link Up, and Authorization Fail traps to be sent to your SNMP console.





- 18 You can change the Max Frame Size and Power Forward settings by selecting an option from the drop-down list.
- 19 From this window, you can see another set of tabs, one for each port on the IntelliJack. Click on the port whose settings you want to change, check the box next to the setting to be changed, and select a value from the dropdown list. You can change the Flow Control, the AutoMDI(X) crossover capabilities, and the Multicast Rate Limit.

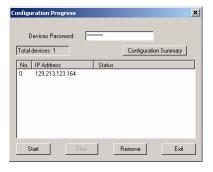
20 At the bottom of this window is an option to restore some of the configuration settings to their default values. If you check this box, the following settings will be restored:

Global Setting	Default Value
Max Frame Size	1518 or 1522 if tagged
Counter Mode	Count good frames
Priority Scheduling Mode	8, 4, 2, 1 weighted
VLAN Tag for LAN Port (egress)	Egress frame unmodified
VLAN Tag for LAN Port (ingress)	Ingress frame unmodified
Power Forward	Auto detection
SNMP "Set" Permission	Not allowed

Port Setting	Default Value
State	Forwarding
Link	Auto negotiation
Flow Control	Off
MDI[X]	Force MDI
Multicast Limit	3%
Priority Lookup	Tag & IPV4
Port Priority	1
VLAN ID	1
Port based VLAN	All ports on same VLAN

The values that remain unchanged when you click Restore Factory Default Settings are:

- Group Name
- Location ID
- Password
- IP Address
- DHCP Settings
- SNMP Community Strings
- SNMP Trap Settings
- 21 When you are finished entering the configuration changes to your NJ205 IntelliJack, click the OK button and a Configuration Progress dialog box will appear. If you don't want to apply the changes you made, click Exit to discard those changes and exit the window.



22 If you click Configuration Summary, you will see a summary of all the changes you have made. Enter your password and click Start. As the IntelliJacks are configured, their status will be updated in the Status column.



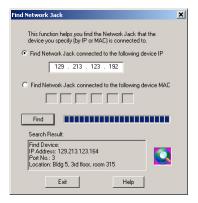
**NOTE**: If a NJ205 IntelliJack that was once discovered by the Central Configuration Manager is no longer connected to your network or if you just want to remove a device from the current database, you can select Delete Device from the Devices menu.

### Finding Computers Connected to NJ205 Devices

Occasionally you may need to find out which IntelliJack a networked device, such as a PC, is connected to. This is one of the many situations where the Location Information field of the NJ205 can be very useful.

If you know the IP address or MAC address of the computer or networked device, you can use the Central Configuration Manager to find the right IntelliJack.

1 Select Find Location from the Tools menu. You will see a window like this:



- 2 Enter the IP address or the MAC address of the network device you wish to find.
- Click the Find button.

When the search is complete, the Search Results field will display the IP address of the NJ205 that the network device is connected to. It will also show the Location Name assigned to the IntelliJack and which PAN port the network device is using.

4 Click OK to close the window.

### **Upgrading the NJ205 Firmware**

You can upgrade the firmware on your NJ205 devices over the network from the Central Configuration Manager. To do so, follow these steps:

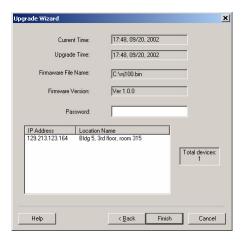
- 1 Select one or more IntelliJacks you want to upgrade. You can select groups of IntelliJacks using one of the grouping options available to you in the drop-down list at the top left corner of the main window.
- 2 Select Upgrade from the devices menu. A window like this will appear:



3 Select Yes to continue the upgrade operation. A window like this will appear:

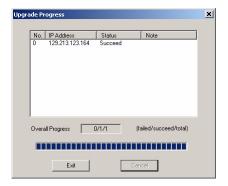


- 4 Select a valid firmware image by typing the path to the file or by using the Browse button.
- 5 Select the time to perform the upgrade. You can either send the update file immediately or select a specific time and date to send the file. You may, for example, want to perform an upgrade during off hours such as a weekend.
- **6** Click Next and a window like this will appear:



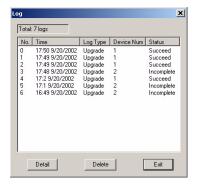
7 Review the list of IntelliJacks you want to upgrade. If you want to modify this list, click Cancel and restart the firmware upgrade procedure.

8 Type your password in the Password field, then click Finish. The Upgrade Progress dialog box will appear.



### Viewing Log Files

The Central Configuration Manager creates a log file with details of the firmware upgrade operation. This file is in the Central Configurator\Log subdirectory under the directory where you installed the IntelliJack configuration software. You can also view a history of firmware upgrades by selecting Log History from the View menu. A window like this will appear:

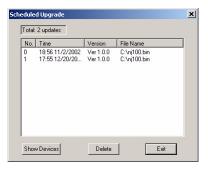


To view the details of a particular log, select it and click Detail. If the firmware upgrade of an NJ205 unit fails for some reason, a message will appear in the upgrade progress dialog box and the log file. Consult the troubleshooting guide on page 75 for more information.

### Viewing and Canceling Scheduled Firmware Upgrades

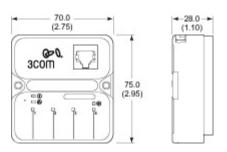
You can select a time and date to send an upgraded firmware image to the IntelliJacks in your network. To view and make changes to the firmware upgrades you have scheduled, follow these steps:

1 Select Scheduled Upgrade from the View menu. A window like this will appear:



2 To view the details of a scheduled upgrade, select it from the list and click Show Devices. To cancel a scheduled upgrade, select it from the list and click Delete.

### **A** Specifications



Hardware	
Power consumption	< 3.5 watts without power forwarding
	Maximum 11 watts with power forwarding (depending on the device drawing power)
Network Interface	
10 Mbps Ethernet 10BASE-T	Ethernet IEEE 802.3 industry standard for a 10 Mbps baseband CSMA/CD local area network
100 Mbps Ethernet 100BASE-TX	Ethernet IEEE 802.3u industry standard for a 100 Mbps baseband CSMA/CD local area network

Performance	
Auto-negotiation	Communication speed (10 Mbps or 100 Mbps) and duplex mode (full or half) can be determined through autonegotiation with the attached devices. The IntelliJack attempts to negotiate the fastest connection possible (100 Mbps full-duplex).
	The communication speed and duplex mode can also be controlled using the configuration management software.
Environment	
Operating temperature	32° to 104° F (0° to 40° C)
Storage temperature	-22° to 194° F (-30°- to 90° C)
Operating humidity	10-90% noncondensing
Storage humidity	10-90% noncondensing
Operating Altitude	8,000 ft. max
Storage Altitude	20,000 ft. max
Standards Conformanc	e
IEEE 802.3 10BASE-T, 100BASE-TX and auto-negotiation	
Power Over Ethernet IEEE	802.3af

Power forwarding of 7 watts, 48 volts from port number 4

Features	
Power Over Ethernet	Compatible with IEEE 802.3af
Local power supply	Required for networks that do not support Power Over Ethernet
Voice Over IP (VoIP)	Compatible with VoIP.
Power forwarding	Power forwarding Port number 4 can be used with any standard networking device as well as to power a device such as a VolP telephone on a network that uses IEEE 802.3af-compatible Power Over Ethernet.

### Specifications

## B Default Settings

Global Setting	Default Value
Max Frame Size	1518 or 1522 if tagged
Counter Mode	Count good frames
Priority Scheduling Mode	8, 4, 2, 1 weighted
VLAN Tag for LAN Port (egress)	Egress frame unmodified
VLAN Tag for LAN Port (ingress)	Ingress frame unmodified
Power Forward	Auto detection
SNMP "Set" Permission	Not allowed

Port Setting	Default Value
State	Forwarding
Link	Auto negotiation
Flow Control	Off
MDI[X]	Force MDI
Multicast Limit	3%
Priority Lookup	Tag & IPV4

#### **Default Settings**

Port Setting	Default Value
Port Priority	1
VLAN ID	1
Port based VLAN	All ports on same VLAN

The values that remain unchanged when you click Restore Factory Default Settings are:

- Group Name
- Location ID
- Password
- IP Address
- DHCP Settings
- SNMP Community Strings
- SNMP Trap Settings

# C Optional Components

The IntelliJack works with the following optional components, all of which are available from 3Com (order online at www.3com.com).

### Power Supplies and IP Phone Power Module

Component	Purpose	3C Number(s)
Ethernet Multi-port Endspan Power Supply	For providing Power Over Ethernet to power up to 24 IntelliJacks. 802.3af-compliant integrated switch	3C17205
Ethernet Multi-port Midspan Power Supply	For providing Power Over Ethernet to power up to 24 IntelliJack devices. 802.3af-compliant	3CNJPSE24
Single-port Ethernet power supply	For providing Power Over Ethernet to locally power a single IntelliJack.	3CNJPSE
Local power supply	For locally powering a single IntelliJack; required if your network does not support Power Over Ethernet.	3CNJPSL
NBX Phone Power Module	For powering over Ethernet a NBX VoIP telephone that uses Capacitive Power Discovery Process by an IEEE 802.3af compliant PSE.	3CNJVOIP- NBX

### **Mounting Plates and Spacers**

3Com Part Number	Description
3CNJMP-EXT	10 mm-thick extension ring used to add depth to wall outlet openings when installing an NJ105 or NJ205 IntelliJack.
3CNJMPD-UK	Mounting plate that enables the installation of the NJ105 and NJ205 IntelliJack devices in a UK- style two- or double-gang box.
3CNJMP-FLR	Mounting plate that enables the installation of the NJ105 or NJ205 IntelliJack in a "floor box."
3CNJMP-SPR	Mounting plate used to securely install an NJ105 or NJ205 IntelliJack in wall openings with built-in trim rings, as found in Spain and other locations.
3CNJMP-FR	Mounting plate that enables the installation of the NJ105 or NJ205 IntelliJack in a French-style raceway (locally called "goullot").

### Power Options

The 3CNJ205 IntelliJack is compliant with the following power options:

IEEE 802.3af PSE (Power Source Equipment)
3Com SuperStack 3 Switch 4400 PWR (3C17205)
3Com Power over Ethernet Multiport Midspan (3CNJPSE24)
3Com Power over Ethernet Single-port Midspan (3CNJPSE)
3Com IntelliJack AC Power Supply (3CNJPSL)

Before you begin the installation, determine which type of power supply the IntelliJack will use.



NOTE: For additional information on power supplies that support the IntelliJack, go to www.3com.com/.

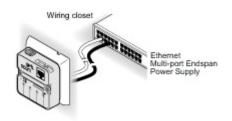


CAUTION: Use only a power supply that is provided or approved by 3Com with the IntelliJack. Failure to do so may result in damage to the IntelliJack, or may result in a hazardous situation or personal injury.

#### Using an Integrated Switch with Power Over Ethernet

To use Power Over Ethernet, you must have a switch on the network that has Power Over Ethernet integrated into it.

Connect the network data/power cable to the IntelliJack white cable, as shown in the following illustration.





**NOTE**: The black cable can also be connected to an Ethernet multi-port midspan power supply and will power a PoE compatible device connected to the pass-through port on the IntelliJack, but it will not provide power to the IntelliJack.

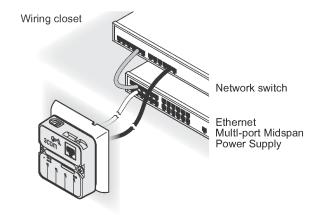
### **Using Ethernet Multi-port Midspan Power Supply**

To use an Ethernet multi-port midspan power supply, you must connect the power supply to your network, as shown in the illustration on page 68.

The Ethernet multi-port midspan power supply from 3Com connects to an existing Ethernet or Fast Ethernet infrastructure with standard Category 5 or better cabling, and powers up to 24 IntelliJack devices. For complete installation instructions, see the Ethernet multi-port midspan power supply documentation located at www 3Com com

Connect the network data/voice/power cable to the IntelliJack white cable.

Connect the network second data/voice/power cable (if available) to the IntelliJack black cable.

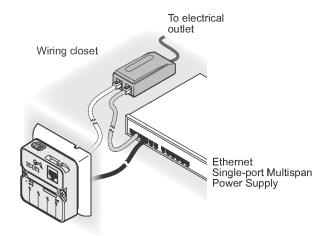




**NOTE**: The black cable can also be connected to Ethernet multi-port midspan power supply and will power a PoE compatible device connected to the pass-through port on the IntelliJack, but it will not provide power to the IntelliJack.

# Using a Single-port Ethernet Power Supply

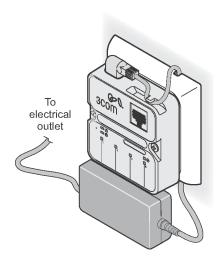
To use a single-port Ethernet power supply, connect the power supply to the network hub or switch and to the IntelliJack white cable, as shown in the following illustration. The black cable should be connected to a data port on the wire closet switch.



# **Using the 3Com Local Power Supply**

If your network does not support Power Over Ethernet, or if you are not using a single-port or multi-port endspan power supply, you must purchase a local power supply from 3Com. See Appendix C "Obtaining Optional Components".

To power the IntelliJack with a local power supply, make sure you have an electrical outlet near the site where the IntelliJack will be installed.



To connect the local power supply to the IntelliJack, follow these steps (as shown in the previous diagram):

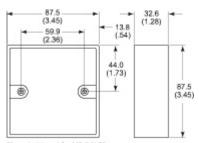
- Route the power cable through the strain relief on the top of the IntelliJack.
- 2 Plug the power cable into the IntelliJack.
- 3 Check to ensure that the cable is secure in the strain relief.
- **4** Route the cable behind the trim ring from top to bottom.
- **5** Secure the local power supply and cable to the wall.
- **6** Plug the local power supply into the power source.



**WARNING**: Only use the local power supply available from 3Com. Failure to do so may result in damage to the IntelliJack, or may result in a hazardous situation.

# Installation Planning

Make sure the wall or cubicle opening where the IntelliJack is being installed complies with the British Standard Institute (BSI): BS 4664:1970 (1986) standard, as described below.



Threaded insert for M3.5 X 25mm screw

Make sure the distance between the back of the IntelliJack and the inside of the wall or cubicle opening is at least 30mm to maintain an acceptable bend radius on the cable.



WARNING: The NJ205 is designed to be mounted using the provided mounting plate or many after-market faceplates. However, some after-market faceplates stand out from the wall and do not provide a secure mounting surface for the IntelliJack. In such cases, it is recommended to place the 3Com spacer between the IntelliJack and the after-market face plate.

To ensure proper horizontal cabling functionality, adhere to the following standards during installation:

- ANSI/TIA/EIA-568
   Commercial Building Telecommunications Cabling Standard
- ANSI/TIA/EIA-569
   Commercial Building Standard for Telecommunications Pathways and Spaces
- BRITISH STANDARD INSTITUTE (BSI): BS 4664:1970 (1986)

The network cabling at your site (from the wiring closet to the wall or cubicle opening) may already be installed. If it is not, install the cabling following these general guidelines.



**CAUTION**: It is recommended that a professional cable installer perform these procedures. Be sure to adhere to local safety and regulatory codes during the cable installation.

# Troubleshooting

If you encounter problems with the NJ205 IntelliJack:

- Verify the IntelliJack is receiving power by viewing the Power LED (it should be on). If the Power LED is not on, make sure that:
  - (If using Power Over Ethernet) the other end of the network cable is plugged into a switch on the network that has Power Over Ethernet integrated into it, or one that feeds into an external midspan power supply that supports Power Over Ethernet.
  - (If using a local power supply) the power supply is plugged into the IntelliJack and into a working electrical outlet.
- Verify the IntelliJack is connected to the network properly by viewing the Link LED (it should be on). If the Link LED is not on, make sure the network cable:
  - Is terminated properly. Refer to the connector manufacturer's instructions for terminating the cable. Be sure to test the connector and verify it is working.
  - Has a valid connection to the network.
  - Adheres to proper length and cabling specifications for your network.

# **Troubleshooting Matrix**

-		
Event/ Message	Description	Solution
Power LED is not on	IntelliJack is not receiving power	Ensure power supply is properly connected.
		For power over Ethernet, make sure that the cable is connected to both the LAN port on the back of the IntelliJack and to the workgroup switch.
Link LED is not on	IntelliJack has no connection to the network	Make sure network cable is properly terminated.
		Make sure the IntelliJack is connected to the network.
		Make sure the cable is plugged into the workgroup switch.
Green LEDs on Ports 1-4 are not on	Network device has no connection to IntelliJack	Make sure the cable is properly connected to the network device.
		Make sure the cable is firmly connected to one of the four IntelliJack ports labeled 1-4.
		Make sure the cable is a good straight-through cable.

Event/ Message	Description	Solution
Amber LED on Port 4 is not lit	Power is not being forwarded to network device	Make sure the cable is properly connected to the network device.
		Make sure the cable is firmly connected to one of the four IntelliJack ports labeled 1-4.
		Make sure the cable is a good straight-through cable.
		Make sure network device is 802.3af compatible.
		Make sure the power requirement for network device does not exceed 7 watts.
Authenticati on Failure	Wrong password has been entered	Confirm correct password and re-type.
Timeout	Device did not respond within a specified period of time	Refresh the screen after a few seconds. If the problem persists, try to rediscover the device.

# Troubleshooting

Event/ Message	Description	Solution
Attributes Error	Unexpected configuration parameters	Confirm that you have specified valid parameter values and retry the configuration operation.
		NOTE: This error should not appear to the user under normal conditions.
General Error	Something other than authentication failure, timeout or attributes error has occurred	Retry the operation you were performing.
		NOTE: This error should not appear to the user under normal conditions.

# G Technical Support

3Com provides easy access to technical support information through a variety of services. This section describes these services. Information contained in this section is correct at time of publication. For the most recent information, 3Com recommends that you access the 3Com Corporation World Wide Web site: www.3com.com.

# 90 Day Free Installation Support

3Com provides free installation and troubleshooting telephone support for this product for 90 days from the date of purchase. Hours of operation are subject to change. See "Support from 3Com" on page 82.

#### Online Technical Services

3Com offers worldwide product support 24 hours a day, 7 days a week, through the following online systems:

- World Wide Web site
- 3Com Knowledgebase Web Services
- 3Com FTP site

#### World Wide Web Site

To access the latest networking information on the 3Com Corporation World Wide Web site, enter this URL into your Internet browser: http://www.3com.com/ This service provides access to online support information, such as technical documentation and a software library, as well as support options that range from technical education to maintenance and professional services.

## 3Com Knowledgebase Web Services

This interactive tool contains technical product information compiled by 3Com expert technical engineers around the globe. Located on the World Wide Web at http://knowledgebase.3com.com, this service gives all 3Com customers and partners complementary, around-the-clock access to technical information on most 3Com products.

#### 3Com FTP Site

Download drivers, patches, software, and MIBs across the Internet from the 3Com public FTP site. This service is available 24 hours a day, 7 days a week.

To connect to the 3Com FTP site, enter the following information into your FTP client:

Hostname: ftp.3com.comUsername: anonymous

■ Password: <your Internet e-mail address>



**NOTE:** You do not need a user name and password with Web browser software, such as Netscape Navigator and Microsoft Internet Explorer.

# Support from Your Network Supplier

If you require additional assistance, consult your network supplier. Many suppliers are authorized 3Com service partners who are qualified to provide a variety of services, including network planning, installation, hardware maintenance, application training, and support services.

When you consult your network supplier, have the following information ready:

- Product model name, part number, and serial number
- A list of system hardware and software, including revision levels
- Diagnostic error messages
- Details about recent configuration changes, if applicable

If you are unable to consult your network supplier, see the following section on how to contact 3Com.

# Support from 3Com

If you are unable to obtain assistance from the 3Com online technical resources or from your network supplier, 3Com offers technical telephone support services. To find out more about your support options, call the 3Com technical telephone support phone number: UK- 0870 909 3266; DE- 01805 404 747.

When you contact 3Com for assistance, have the following information ready:

- Product model name, part number, and serial number
- A list of system hardware and software, including revision levels
- Diagnostic error messages
- Details about recent configuration changes, if applicable

# Returning Products for Repair

Before you send a product directly to 3Com for repair, you must first obtain an authorization number. Products sent to 3Com without authorization numbers will be returned to the sender unopened, at the sender's expense. To obtain an authorization number, refer to the table on page 83.

Country	Telephone #
Austria	01 79567124
Belgium (Flemish)	070 700000
Belgium (French)	070 700770
Denmark	70107289
Finland	01080-2783
France	0825 809 622
Germany	01805 404 747
Hungary	06800 14466
Ireland	1800 509359
Israel	1800 9432632
Italy	199 161346
Luxembourg	800 29880
Netherlands	0900 777 7737
Norway	815 33 047
Poland	00800 4411357
Portugal	707 200 123
South Africa	0800 991196
Spain	9 021 60455
Sweden	0771114453
Switzerland	0848850112
UK	0870 909 3266
All Other Countries	+44 1442 435529

# Limited Warranty and Regulatory Compliance Information

# 3Com Corporation Limited Warranty

This warranty applies to customers located in the United States, Australia, Canada (except Quebec), Ireland, New Zealand, U.K., and other English language countries, and countries for which a translation into the local language is not provided.

### 3Com® NJ205

#### Hardware

3Com warrants to the end user ("Customer") that this hardware product will be substantially free from material defects in workmanship and materials, under normal use and service, for the following length of time from the date of purchase from 3Com or its authorized reseller:

Limited Lifetime, for as long as the original Customer owns the product or for 5 years after product discontinuance, whichever occurs first (not transferable to a subsequent end user). FOR NON-US CUSTOMERS: Where a limited lifetime warranty is not permitted by local law, a 10 year warranty period shall be given by 3Com. The duration of this warranty shall be modified where necessary to meet any minimum warranty period required by law.

3Com's sole obligation under this express warranty shall be, at 3Com's option and expense, to repair the defective product or part, deliver to Customer an equivalent product or part to replace the defective item, or if neither of the two foregoing options is reasonably available, refund to Customer the purchase price paid for the defective product. All products that are replaced will become the property of 3Com. Replacement products or parts may be new or reconditioned. 3Com warrants any replaced or repaired product or part for ninety (90) days from shipment, or the remainder of the initial warranty period, whichever is longer.

#### OBTAINING WARRANTY SERVICE

Customer must contact a 3Com Corporate Service Center or an Authorized 3Com Service Center within the applicable warranty period to obtain warranty service authorization. Dated proof of purchase from 3Com or its authorized reseller may be required. A User Service Order (USO), Return Material Authorization (RMA) or Service Repair Order (SRO) number will be issued. This number must be marked on the outside of the package sent to 3Com's Corporate Service Center. The product must be packaged appropriately for safe shipment and sent prepaid. It is recommended that returned products be insured or sent by a method that provides for tracking of the package. Responsibility for loss or damage does not transfer to 3Com until the returned item is received by 3Com. 3Com will retain risk of loss or damage until the item is delivered to Customer. For non-US Customers, the word 'prepaid' shall be omitted where this requirement is not permitted by law. The allocation of responsibility for loss or damage stated shall be subject to any mandatory legal requirements. 3Com shall not be responsible for any software, firmware, information, or memory data of Customer contained in, stored on, or integrated with any products returned to 3Com for repair, whether under warranty or not.

#### WARRANTIES EXCLUSIVE, WARRANTY DISCLAIMER

TO THE FULL EXTENT ALLOWED BY LAW, THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES, TERMS OR CONDITIONS, EXPRESS OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, WARRANTIES, TERMS OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, SATISFACTORY QUALITY, CORRESPONDENCE WITH DESCRIPTION, NONINFRINGEMENT AND QUIET ENJOYMENT, ALL OF WHICH ARE EXPRESSLY DISCLAIMED. 3COM NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR IT ANY OTHER LIABILITY IN CONNECTION WITH THE SALE, INSTALLATION. MAINTENANCE OR USE OF THIS PRODUCT.

3COM SHALL NOT BE LIABLE UNDER THIS WARRANTY IF ITS TESTING AND EXAMINATION DISCLOSE THAT THE ALLEGED DEFECT OR MALFUNCTION IN THE PRODUCT DOES NOT EXIST OR WAS CAUSED BY CUSTOMER'S OR ANY THIRD PERSON'S MISUSE, NEGLECT, IMPROPER INSTALLATION OR TESTING, UNAUTHORIZED ATTEMPTS TO OPEN, REPAIR OR MODIFY THE PRODUCT, OR ANY OTHER CAUSE BEYOND THE RANGE OF THE INTENDED USE, OR BY ACCIDENT, FIRE, LIGHTNING, POWER CUTS OR OUTAGES, OTHER HAZARDS, OR ACTS OF GOD.

#### LIMITATION OF LIABILITY

TO THE FULL EXTENT ALLOWED BY LAW, 3COM ALSO EXCLUDES FOR ITSELF AND ITS LICENSORS AND SUPPLIERS ANY LIABILITY, WHETHER BASED IN CONTRACT OR CONTRUCTOR (INCLUDING NEGLIGENCE), FOR INCIDENTAL, CONSEQUENTIAL, INDIRECT, SPECIAL, OR PUNITIVE DAMAGES OF ANY KIND, OR FOR LOSS OF REVENUE OR PROFITS, LOSS OF BUSINESS, LOSS OF INFORMATION OR DATA, OR OTHER FINANCIAL LOSS ARISING OUT OF OR IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE, USE, PERFORMANCE, FAILURE, OR INTERRUPTION OF ITS PRODUCTS, EVEN IF 3COM OR ITS AUTHORIZED RESELLER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, AND LIMITS ITS LIABILITY TO REPAIR, REPLACEMENT, OR REFUND OF THE PURCHASE PRICE PAID, AT 3COM'S OPTION. THIS DISCLAIMER OF LIABILITY FOR DAMAGES WILL NOT BE AFFECTED IF ANY REMEDY PROVIDED HEREIN SHALL FAIL OF ITS ESSENTIAL PURPOSE.

Some countries, states, or provinces do not allow the exclusion or limitation of implied warranties or the limitation of incidental or consequential damages for certain products supplied to consumers, or the limitation of liability for death or personal injury, so the above limitations and exclusions may be limited in their application to you. When the implied warranties are not allowed to be excluded in their entirety, they will be limited to the duration of the applicable written warranty. This warranty gives you specific legal rights which may vary depending on local law.

#### GOVERNING I AW

This Limited Warranty shall be governed by the laws of the State of California, U.S.A., and by the laws of the United States, excluding their conflicts of laws principles. The United Nations Convention on Contracts for the International Sale of Goods is hereby excluded in its entirety from application to this Limited Warranty.

3Com Corporation

5500 Great America Pkwy

Santa Clara, California

95052-8145

U.S.A. (408) 326-5000

#### FCC Class A Verification Statement

WARNING: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules, and the Canadian Department of Communications Equipment Standards entitled, "Digital Apparatus," ICES-003. These limits are designed to provide reasonable protection against harmful interference in a commercial installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case, the user will be required to correct the interference at the user's own expense.

Changes or modifications not expressly approved by 3Com could void the user's authority to operate this equipment.

### FCC Declaration of Conformity

We declare under our sole responsibility that the

Model: Description: 3CNJ205 NJ205 IntelliJack

to which this declaration relates, is in conformity with the following standards or other normative documents:

ANSLC63 4-1992 Methods of Measurement

Federal Communications Commission 47 CFR Part 15, subpart B

#### **European Union Declaration of Conformity**

This product is in compliance with the essential requirements and other relevant provisions of Directives 73/23/EEC and 89/336/EEC.



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